

WHAT IS CLAIMED IS:

1. A chlorine dioxide gas generating kit, said kit comprising:
a chlorine dioxide gas generating apparatus comprising:
a container having a flexible outer wall defining an interior chamber of the
container;
5 a first reaction component and a second reaction component disposed
within the interior chamber of the container; and
at least one rupturable membrane disposed within the interior chamber of
the container and separating the first and second reaction components, the at least
one rupturable membrane being rupturable upon at least one of bending,
10 compression, tension or puncture of the flexible outer wall of the container to
permit contact between the first and second reaction components to thereby form
a reaction in which chlorine dioxide gas is produced within the container;
the container being adapted for exhausting the chlorine dioxide gas
therefrom; and
15 a substantially rigid receptacle defining an internal cavity sized and shaped
for receiving at least a portion of the container of the chlorine dioxide gas
generating apparatus so as to inhibit flexing and bending of the container to
thereby inhibit unintended rupturing of said at least one rupturable membrane of
the apparatus, the apparatus being removable from the receptacle for activating
20 the apparatus to generate chlorine dioxide gas.
2. The kit set forth in claim 1 wherein the internal cavity of the receptacle is
sized and shaped to inhibit movement of said at least a portion of the container of
said apparatus within the receptacle.
3. The kit set forth in claim 1 wherein the apparatus container is generally
tubular.
4. The kit set forth in claim 3 wherein the receptacle comprises a tubular
sheath constructed of a substantially rigid material and having a central bore, said

at least a portion of the chlorine dioxide gas generating apparatus being slidably receivable in the central bore of the sheath.

5. The kit set forth in claim 4 wherein said at least a portion of the apparatus container frictionally engages the sheath upon insertion of said at least a portion of the container in the central bore of said sheath to frictionally hold the apparatus within the receptacle.

5 6. The kit set forth in claim 5 wherein the apparatus container has longitudinally opposite ends, one of said ends being smaller in cross-section than a cross-section of the internal cavity of the receptacle to permit insertion of the container into said internal cavity, said one end first, into the internal cavity of the receptacle, the opposite end of said container being larger in cross-section than the cross-section of the internal cavity of the receptacle to inhibit insertion of said opposite end into said internal cavity.

7. The kit set forth in claim 1 wherein the receptacle is configured to fully enclose the gas generating apparatus within the internal cavity of the receptacle.

8. The kit set forth in claim 7 wherein the container of the gas generating apparatus is a pouch constructed of a substantially flexible material.

9. The kit set forth in claim 7 wherein the receptacle comprises a releasable closure for releasably closing the internal cavity of the receptacle with the gas generating apparatus therein.

5 10. The kit set forth in claim 1 wherein the container of the chlorine dioxide gas generating apparatus is a first container thereof, the apparatus further comprising a second container disposed at least partially within the first container and containing one of said first and second reaction components, said second container having a rupturable outer wall defining the rupturable membrane separating said first and second reaction components.

11. A kit for producing chlorine dioxide gas, said kit comprising:
a chlorine dioxide gas generating apparatus comprising:

a container having a flexible outer wall defining an interior chamber of the container;

5 a first reaction component and a second reaction component disposed within the interior chamber of the container; and

at least one rupturable membrane disposed within the interior chamber of the container and separating the first and second reaction components, the at least one rupturable membrane being rupturable upon at least one of bending and
10 compression of the flexible outer wall of the container to permit contact between the first and second reaction components to thereby form a reaction in which chlorine dioxide gas is produced within the container;

the container being adapted for exhausting the chlorine dioxide gas therefrom; and

15 a flexible envelope for receiving the chlorine dioxide gas generating apparatus therein, the envelope being sealed about its periphery to sealably enclose said gas generating apparatus therein.

12. The kit set forth in claim 11 further comprising a receptacle having an internal cavity sized and shaped for receiving at least a portion of the chlorine dioxide gas generating apparatus therein, the receptacle being substantially rigid to thereby inhibit unintended rupturing of said at least one rupturable membrane of
5 the apparatus, the apparatus being removable from the receptacle for activating said apparatus to generate chlorine dioxide gas, said receptacle and gas generating apparatus together being sealed within said envelope.

13. The kit set forth in claim 12 wherein the chlorine dioxide gas generating apparatus and the receptacle are held together for insertion in and removal from the envelope as a single unit.

14. The kit set forth in claim 13 wherein the apparatus and the receptacle are held together by frictional engagement therebetween.

15. Apparatus for producing chlorine dioxide gas, said apparatus comprising a container defining an interior chamber, a first reaction component comprising a chlorite source and a second reaction component comprising at least

one of an oxidizing agent and an acid releasing agent, said first and second
5 reaction components being disposed within the interior chamber of the container
and separated by at least one rupturable membrane whereby upon rupturing of
said at least one membrane the first and second reaction components contact
each other to form a reaction in which chlorine dioxide gas is produced within the
10 interior chamber of the container, the container being constructed of a substantially
liquid and gas impermeable material and having apertures formed therein in
communication with the interior chamber of the container to permit exhaustion of
chlorine dioxide gas from said interior chamber, said apparatus further comprising
a gas permeable and substantially liquid impermeable substrate secured to the
container over said apertures.

16. Apparatus as set forth in claim 15 wherein the substrate is secured to
the container within the interior chamber of said container.

17. Apparatus as set forth in claim 15 further comprising an absorbent pad
separate from said substrate and disposed within the interior chamber of the
container intermediate said apertures and said first and second reaction
components.

18. Apparatus as set forth in claim 15 wherein said container comprises a
top and a base, said top comprising generally dome-shaped inner wall and an
outer wall, and said base comprising an inner wall and an outer wall, wherein said
inner walls of said top and base define the interior chamber of the container.

19. Apparatus as set forth in claim 18 further comprising an absorbent pad
separate from said substrate and disposed within the interior chamber of the
container intermediate said apertures and said first and second reaction
components.

20. Apparatus as set forth in claim 18 wherein the apertures are formed on
the top of the container, the apparatus further comprising an adhesive layer
disposed on an exterior of the base for adhering the apparatus to a surface.

21. Apparatus as set forth in claim 15 wherein said at least one rupturable membrane comprises an ampule containing one of the first and second reaction components.

22. Apparatus as set forth in claim 15 wherein said at least one rupturable membrane comprises a first ampule containing the first reaction component and a second ampule containing the second reaction component.

23. Apparatus as set forth in claim 22 wherein said first and second reaction components are aqueous.